1/28

THEORETICAL POPULATION BIOLOGY

UNIVERSITY OF HAWAII LIBRARY
LIBRARY USE ONLY

AN INTERNATIONAL JOURNAL

EDITORS

J. F. Crow
S. Karlin
N. Keyfitz
R. MacArthur

ASSOCIATE EDITORS

N. T. J. Bailey
W. Bodmer
W. H. Bossert
L. L. Cavalli-Sforza
L. Henry
J. M. Hoem
C. Holling
M. Kimura
K. Kojima
R. Levins
R. C. Lewontin
P. A. P. Moran
J. Pollard
A. Robertson
M. C. Sheps
L. Slobodkin

MANAGING EDITOR

J. McGregor

VOLUME 1 · 1970

ACADEMIC PRESS
New York and London

COPYRIGHT © 1970, BY ACADEMIC PRESS INC.

ALL RIGHTS RESERVED

NO PART OF THIS VOLUME MAY BE REPRODUCED IN ANY FORM, BY PHOTOSTAT, MICROFILM, BY RETRIEVAL SYSTEM, OR ANY OTHER MEANS, WITHOUT WRITTEN PERMISSION FROM THE PUBLISHERS.

ACADEMIC PRESS, NEW YORK AND LONDON

Printed by the St Catherine Press, Ltd., Bruges, Belgium

CONTENTS OF VOLUME 1

Number 1, May 1970

Robert MacArthur. Species Packing and Competitive Equilibrium for Many Species 1

Jan M. Hoem. Probabilistic Fertility Models of the Life Table Type . 12

Samuel Karlin and Marcus W. Feldman. Linkage and Selection: Two Locus Symmetric Viability Model 39

G. A. Watterson. The Effect of Linkage in a Finite Random-Mating Population 72

Ilan Eshel and Marcus W. Feldman. On the Evolutionary Effect of Recombination 88

Takeo Maruyama. On the Rate of Decrease of Heterozygosity in Circular Stepping Stone Models of Populations 101

Alan Robertson. Some Optimum Problems in Individual Selection . . 120

Number 2, August 1970

W. J. Ewens. Remarks on the Substitutional Load 129

S. D. Jayakar. A Mathematical Model for Interaction of Gene Frequencies in a Parasite and Its Host 140

Daniel L. Hartl and Spencer W. Brown. The Origin of Male Haploid Genetic Systems and Their Expected Sex Ratio 165

Beresford Parlett. Ergodic Properties of Populations I: The One Sex Model 191

J. H. Pollard. On Simple Approximate Calculations Appropriate to Populations with Random Growth Rates 208

Peter O'Donald. Change of Fitness by Selection for a Quantitative Character 219

G. A. Watterson. On the Equivalence of Random Mating and Random Union of Gametes Models in Finite, Monoecious Populations . . . 233

NUMBER 3, NOVEMBER 1970

R. G. POTTER. Births Averted by Contraception: An Approach Through Renewal Theory 251

TAKEO MARUYAMA. Effective Number of Alleles in a Subdivided Population 273

LEONHARD EULER (Translated by Nathan and Beatrice Keyfitz). A General Investigation into the Mortality and Multiplication of the Human Species 307

EDWARD POLLAK AND OSCAR KEMPTHORNE. Malthusian Parameters in Genetic Populations. I. Haploid and Selfing Models 315

SAMUEL H. PRESTON. The Birth Trajectory Corresponding to Particular Population Sequences 346

BRIAN CHARLESWORTH. Selection in Populations with Overlapping Generations. I. The Use of Malthusian Parameters in Population Genetics 352

MARCUS W. FELDMAN AND JAMES F. CROW. On Quasilinkage Equilibrium and the Fundamental Theorem of Natural Selection 371

AUTHOR INDEX 392